Comprehensive Technical Exhibit

Application for Modification of License

KMKF(FM) - Manhattan, Kansas

Manhattan Broadcasting Co., Inc.

January, 2011

Application for Modification of License

The following engineering statement and attached exhibits have been prepared for **Manhattan Broadcasting Co., Inc.** ("Manhattan"), licensee of FM broadcast station KMKF(FM) at Manhattan, Kansas, and are in support of their application for modification of license.[1]

KMKF(FM) is currently authorized as a class C2 facility with a maximum effective radiated power of 36 kW at a center of radiation of 176 meters above average terrain pursuant to Section 73.207 of the Commission's Rules. Upon an examination of the license, it was noted that the authorized center of radiation above average terrain is different from that resulting from the use of 8-radials and a 3-second linearly interpolated terrain database. When a 3-second database is utilized, and the standard eight radials sampled, the average terrain is determined to be 352.6 meters above mean sea level. This results in the actual center of radiation being 174.4 meters above average terrain. Manhattan seeks to modify the license for KMKF(FM) to reflect this value.

Although the Commission's Rules state that terrain samples at the 30-second resolution is standard, the Staff has historically permitted use of the more accurate terrain database. In this particular instance, the continued use of the less accurate 30-second linearly interpolated database under which the original application was submitted, results in a small reduction in the service area of the facility. Use of the more accurate 3-second data will allow a small increase in the KMKF(FM) effective radiated power.

At present, and as previously mentioned in this text, KMKF is authorized with a maximum effective radiated power of 36 kW as a class C2 facility. The reduction in the maximum effective radiated power from 50 kW to the currently licensed value of 36 kW is a result of the authorized

[1] The Facility ID for KMKF(FM) at Manhattan, Kansas is 39784.

center of radiation being in excess of 150 meters above average terrain. The use of the afore discussed center of radiation height above average terrain of 174.4 meters, the requested maximum effective radiated power of 37 kW, and the Commission's on-line propagation calculator results in a distance to the 60 dBu service contour of 52.4 kilometers, which rounds to 52 kilometers.

It should be noted that no actual physical change in the facility is proposed, nor is any change relative to mean sea level proposed. Rather the modification proposed is housekeeping related in order to bring the facility into agreement with more accurate terrain data. Exhibit E-1 compares the licensed parameters to those that should be specified on the new license. This modification is consistent with the provisions of Section 73.1690.

No change in the main studio for the facility is proposed. The main studio is located within the corporate boundaries of Manhattan, Kansas. This location is also within the predicted 70 dBu service contour, thus the main studio remains in compliance with the provisions of Section 73.1125 of the Commission's Rules.

The specified transmitter power output achieves the authorized effective radiated power. The antenna in use by the facility is an ERI 8-bay full-wavelength spaced roto-tiller design, model MPX-8C. This antenna has a numerical power gain of 4.4872. The proposed effective radiated power of 37 kW is achieved through an antenna input power of 8.25 kW. Connected to the antenna is 138 meters of Andrew HJ8-50B air dielectric transmission line. Data from the manufacturer assign an efficiency of 83.53 percent to this run of transmission line. Therefore, the necessary input power to the transmission line, which is the transmitter power output, is 9.90 kW, which is the specified transmitter power output.

KMKF is currently authorized pursuant to Section 73.207 of the Commission's Rules. No change in the location, channel of operation, or class of facility is proposed. In addition, no international coordination is required as the facility is more than 320 kilometers from either the Canadian or the Mexican borders. The proposed increase in the effective radiated power, which makes a minimal change to the contour distances, will similarly not result in changes to the multiple ownership situation.

The provisions of Section73.1030 of the Commission's Rules are not applicable to the proposed facility. The proposed facility is not located in proximity to the National Radio Observatory in West Virginia, nor on any of the Caribbean Islands listed in that section of the Rules. The proposed facility is not located in the vicinity of the Table Mountain Radio Receiving Zone. The closest FCC installation to the proposed facility is the facility located at Grand Island, Nebraska, however, that facility is located in excess of 225 kilometers from the proposed site, and is thus, not impacted by KMKF.

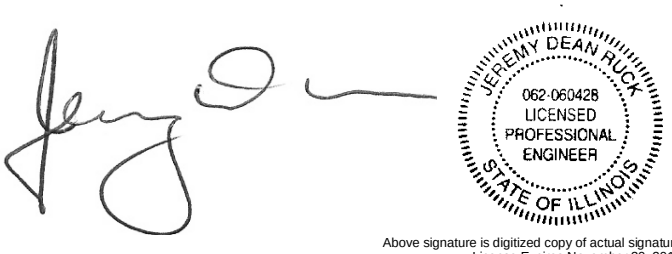
The proposed facility should be exempt from environmental processing. The changes proposed in this application require no excavation or construction. Rather, they simply require a small increase in the transmitter output power. The proposed facility similarly will not result in an RF exposure hazard to persons at the site.

The Commission's *FM Model* software package predicts a maximum power density from the proposed facility at ground level of 7.91 $\mu W/cm^2$ at 36 meters from the base of the tower. . In addition, KXBZ(FM) also utilizes the tower. The predicted maximum power density from that

facility is 16.6 μW/cm^2 at 29.2 meters from the tower base. Thus, the absolute worst-case scenario would result in a power density of 24.5 μW/cm^2, which is well within the upper limit permissible. Manhattan certifies that it will coordinate with all other present and future users of the site to ensure workers and other personnel are not exposed to levels of radiofrequency radiation in excess of the applicable safety standards.

Affidavit

The preceding statement and attached exhibits have been prepared by me, or under my direction, and are true and accurate to the best of my belief and knowledge.



Above signature is digitized copy of actual signature
License Expires November 30, 2011

Jeremy D. Ruck, PE
January 31, 2011

Exhibit E-1
Summary of Technical Parameters

Parameter	Licensed	Proposed
ERP in the Horizontal Plane	36.0 kW	37.0 kW
Radiation Center AGL (meters)	137.0 meters	137.0 meters
Radiation Center AMSL (meters)	527.0 meters	527.0 meters
Radiation Center AAT (meters)	176 meters	174.4 meters
NAD 27 Latitude	39-15-55 North	39-15-55 North
NAD 27 Longitude	96-27-56 West	96-27-56 West

Note that there are no changes other than the effective radiated power and the center of radiation above average terrain. The reduction in the center of radiation above average terrain is less than 2 meters, and is the result of the use of a 3-second linearly interpolated terrain database instead of the 30-second version used at the time of the original application submission. The class contour distance is consistent with a C2 facility, and was calculated using the internet port of the Commission's program.